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Workplace learning for information professionals in a changing information environment

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Abstract

Changes are taking place in society, particularly in higher education. The explosion of knowledge and information technology has virtually altered the characteristics of the learning environment, paving the way for new learning experiences. This is having a dramatic impact on the library and information profession, leading to changes in the continuing education of information professionals. This paper focuses on the role that workplace learning plays in the continuing education of library and information professionals-how they should go about learning what they have to learn and the conditions of workplace learning. Reforming workplace learning is introduced.

Paper

Background

The world is perceived to be in transition at the present time. New economic, political, and social orders are foreseen by renowned persons in their respective fields. It is forecast that a new order will be established for the new millennium. While different viewpoints are being explained by different thinkers, all of them uniformly foresee the evolution of an Information Society at the centre stage of human activity.

Society is undergoing a transformation evoked by the rapid development and diffusion of communication and information technology in all walks of life. A high degree of

computerization and increases in the volume of electronic information, coupled with global access to information via the telecommunications infrastructure, are some of the factors underlying the present process of transformation. Communication and computer technologies, which many consider enabling technologies, seem to occupy the centre stage of all developments and are making a profound impact on society and the economy. The third industrial revolution, better known as the technological revolution, is sweeping across the world. New types of educational technologies are emerging at an ever-accelerating pace, paralleling the innovations in information and communication technologies. The explosion in the field of knowledge and information technology has virtually altered the characteristics of the learning environment, paving the way for new learning environments and the emerging new learners.

Changes in higher education

Higher education is changing very fast. "Virtual universities" are becoming a reality as traditional universities are no longer the only means to higher education. Capital investment in physical resources-in buildings and campuses-will no longer ensure that universities are adequate educational providers. Universities know that they must make imaginative use of the new technologies. The definition of "university" is much more open than before, and the boundaries of space and time are less relevant. Students in Thailand can enroll in Australian universities, via the distance education system, using the new information technology, and graduate without ever seeing Australia. Higher education and a university exist wherever there is a telephone connection, a computer, a modem, and a student.

Higher education is faced with new challenges to connect people to the learning process in new and different ways. New technologies and new forms of virtual education are the tools that will allow many non-traditional students to find new ways of learning, thus increasing their odds of success. The higher education environment has become more competitive, global, and deregulated. These changes are partly the result of the financial constraints faced by the higher education sector, and partly due to advances in IT and communication (Lim, 1997). The university needs a corporate culture that is open for change, a culture in which learning, quality, and excellence are highly valued, and in which acquiring skills is considered a lifelong process and the means to cope with continuous or radical change. Teaching is the facilitation of learning for change and of problem-solving in unknown situations. Research and development becomes a collaborative, practice-oriented approach, leading toward a more open environment of collaboration and of lifelong learning.

Change in higher education has grown tremendously over the past two decades. More and more universities will be pushed to reduce costs, improve the quality of products and services, locate new opportunities for growth, and increase productivity. Zuber-Skerritt (1992) argued that major changes in higher education have been based on the government's requirements for greater efficiency, effectiveness, accountability, and high quality assurance (e.g., through award restructuring, performance indicators, appraisal systems, and staff development schemes).

In a rapidly changing environment, universities inevitably are changing. The question that needs to be considered is the extent to which such change is of the universities' own making and the extent to which it is influenced by external factors. To date, major initiatives toward change have helped some universities adapt significantly to shifting conditions, have improved the competitive standing of others, and have positioned a few for a far better future.

Changes in the library and information profession

Significant and rapid changes in the economic and social environment are making an important impact on the scope and organization of library and information services, and, therefore, on the library and information professions, on manpower requirements, and on professional education and training. The environment in which information professionals have to perform is changing significantly due to economic, social, demographic, political, educational, and technological changes. The revolution in computers, communications, and

content in the past two or three decades has had a dramatic impact on the information profession and information professionals. Society continues to become more paperless, evolving away from formal communication patterns that were almost exclusively on printed paper, to non-paper-based or electronic information. Information technology has removed geographic barriers in such a global library setting and has pushed us toward an information-intensive, networked society.

The transition from a traditional to an electronic library is characterized by electronic services and media in the library. The challenge discussed in so many articles on the future is linked to a third step in the evolution-the virtual library-where digitized information makes the physical boundaries of the library disappear. Libraries extensively exploit new technologies, such as multimedia, knowledge navigation, multi-lingual, and networked systems. These technologies allow libraries to offer a wide range of services, as well as to equip users with new learning tools, enabling them to plug into a whole new world of information. Library environments and the methods of providing services to library users are drastically changing with the availability of new technologies. Online public access catalogues (OPACs) are replacing card catalogues. CD-ROM databases have advanced beyond the domain of their paper counterparts. Prompt document delivery service is accelerating international electronic activities. As a result, today's libraries, especially academic libraries, are quite different from the ones we have known during the past twenty years. Libraries thus must reexamine their roles in society-how they operate and how they deliver library services. With such important changes, professional challenges, and advancement, there is a need for librarians and other information professionals to act as mediators between users and technology-to retrieve required information and to provide quality library and information service. Librarians and other information professionals are now called upon to provide a more sophisticated level of service to a more demanding group of users, especially academicians, faculty members, and students in higher education.

These rapid changes provide an interesting challenge to society itself and to the information profession in particular, and have a dramatic impact on information professionals and librarians. Change, as a whole, is bound to affect, in one way or another, the preparation, role, function, and status of librarians and other information professionals. The profession of librarianship seems now to be approaching a crisis point. The arrival of the Information Society, with its far-reaching developments in information storage and retrieval, is forcing reappraisal and drastic change in all aspects of the profession, particularly on staff development for information professionals to meet the information challenges of the twenty-first century.

Characteristics of adult learners and the adult learning process

Information professionals are adult learners and they bring to their workplace an established body of knowledge, skills, and certain attitudes. Adult learners need to relate new learning to their careers and classroom experiences; they need to evaluate new idea contexts as well. They also need support both from within the organization and from outside the organization, and they need a sense of control. They learn best by being helped to create a sense of ownership of their learning.

To reform learning, a planner should be familiar with how and why adults learn and change. This knowledge of adult learning can then be used to develop effective learning activities. Merriam and Caffarella (1991) provided a comprehensive summary of four orientations of adult learning theory:

- Behaviorist: The focus of this orientation is the reinforcement of stimuli in the learning situation, the result of which is behavioral change.
- Cognitive: Theories focus on internal mental processes and how information is stored, retrieved, and used in the learning process.
- Humanistic: Humanists believe that learning is guided by individual choice and responsibility and is affected by human nature and emotions.
- Social: Learning is a function of the interaction of the individual with the environment.

Adults learn in a variety of ways. Apps (1991) categorized adult learners into three learning styles: (a) intuitive, learners who like to be in control of their learning, (b) sequential, learners who appreciate structured learning, and (c) practical, those who want learning that has immediate application. Cervero (1986) indicated five factors that affect professionals' participation in learning activities. They are: (a) reasons for and deterrents to participation, (b) zest for learning, (c) age and career stages, (d) the nature of practice settings, and (e) the extent to which professionals are required to participate in staff development programs.

Workplace learning

There are many definitions of workplace learning. Here are some important ones:

Holliday (1998, Module 2) referred to workplace learning as:

The processes and outcomes of learning that individual employees and groups of employees undertake under the auspices of a particular workplace. Both the processes and outcomes of learning involve changes in the meanings that individuals and all employees apply to their workplace; learning in the workplace involves changes in feelings and value, knowledge and understandings, and skills that have relevance for a particular workplace. Workplace learning comes about as a result of individual and groups of employees being both willing and able to satisfy individual, group and whole workplace needs through autonomous self-direction, supported and tempered by workplace co-operation.

Spikes (1995) in his "Editor's Notes" defined workplace learning as a multibillion-dollar enterprise in which employees learn new skills designed to help them keep their organizations competitive in an increasingly global economic environment.

Watkins and Marsiel (1993) indicated:

Workplace learning encompasses several other terms including training and human resource development. Initially, training was the prevalent term, and it appropriately referred to job-related instruction. Later, human resource development was coined by Leonard Nadler (Nadler and Nadler, 1989) to mean all those activities that developed people as resources for organizations. Workplace learning encompasses what learners do rather than focusing solely on what trainers or developers do in organizations.

Marsick (1987) gave a definition of workplace learning as:

The way in which individuals or group acquire, interpret, reorganize, change or assimilate a related cluster of information, skills and feelings. It is also primary to the way in which people construct meaning in their personal and shared organisational lives.

My definition for "workplace learning," with reference to a review of related literature and to my knowledge and experience, can be summarized as follows: The means, processes, and activities by which employees learn in the workplace, from basic skills to high technology and management practices that are immediately applicable to workers' jobs, duties and roles; the learning can be formal, non-formal, incidental, or experiential, with an emphasis on self-directed learning. Outcomes should be the development of employee knowledge, skills, values, attitudes, and actions in relation to the workplace environment. Workplace learning is the key factor and an essential element in the personal and professional development of employees. It is the major means by which they improve their work; and it is a key strategic element in achieving organizational objectives and goals, leading directly to enhanced competitive advantage.

What is learned in and for libraries and other information institutions?

The library, as a learning workplace, provides all librarians and other information

professionals opportunities to learn. Some of that learning is formal/official; some is informal/unofficial, which is useful in helping all employees get on with the job. Mezirow (1983, quoted in Holliday, 1998 Module 2, p. 9) suggested three broad types of learning that can occur in any workplace, and referred to these as instrumental, dialogic, and self-reflective learning. Marsick (1987) identified not only the type of learning that individuals undertake as members of groups found in the workplace, but also out-of-workplace learning-the personal development that people experience in their private lives which influences their workplace capacities and interests.

Holliday (1998 Module 2) summarized findings in his study (1994) that identified the types of learning which subject teachers need to undertake in and for their workplaces as follows:

- Learning to survive.
- Learning to implement new curriculum policy documents. Learning to understand oneself as a person and as a professional.
- Learning to develop trust in one's own judgements and to develop one's self-worth and initiative.
- Learning to relate effectively to other people, including colleagues, parents, and other members of one's community.
- Learning to understand children.
- Learning to organize oneself and one's classroom.
- Learning to understand how the school (as a whole organization) is managed.

For information professionals, what is learned in and for the library can be grouped and discussed as follows:

Learning to change. In today's world, where increasingly rapid changes are taking place, it is imperative that a higher level of knowledge is attained to keep pace with new developments. Some individuals who were considered knowledgeable in the past may prove incapable of dealing with present or future demands. Information professionals, technologists, and other employees change their roles and behaviors in significant ways. They learn about and cope with change, as twentieth century society has been transformed by a series of dramatic innovations in information technology.

Learning to develop professional/occupational growth. Professional learning is the key to professional development; it is the main way to improve the quality of work. Information professionals update their knowledge and skills in each individual subject area, position, or task, as needed, to achieve the outcomes desired by the library/institution and expected by the community or society.

Learning to develop personal growth. Professional development and personal development are not separate processes; they are one and the same. Personal knowledge, and the way information professionals feel about themselves as people, develop beyond the workplace and influence professional learning. To fit into the workplace and to be a productive and collaborative colleague, an information professional must develop a positive understanding of oneself as a person, a worker, and lifelong learner, as well as a positive sense of self-worth, initiative, and self-image.

Learning to understand people. The ability to create a collaborative spirit of learning is dependent upon an understanding of people. Since students are the customers of educational institutions, information professionals must learn to understand them in order to meet their needs. This understanding must extend to colleagues, paraprofessionals, administrators, faculty members, academicians, non-academicians, and people in the community. Understanding of people is a key factor ensuring the achievement of an institution's mission, goals, and objectives at various levels.

Learning to manage in the workplace. Management is the key instrument in task implementation and in the effective and efficient performance of job duties. However, responsibility for management is not restricted to administrators. Principles of self-

management and cooperative effort provide an institution with the power to carry out the mission successfully and to meet high standards of quality and service. Information professionals must learn cooperation and teamwork, both within and outside of the workplace. This includes creating a spirit of resource sharing and collaborative learning.

How information professionals go about learning what they have to learn

Watkins and Marsiel (1993) indicated there are many different types of workplace learning opportunities: consultants, tuition reimbursement programs, in-house training programs, external continuing education programs, self-directed learning programs, quality teams, study teams, and more-and that the amount spent both on the providers of this education and workers for time spent learning is staggering.

Information professionals are adult learners and workplace learners. They go about learning what they have to learn through different processes, both formal and informal, as follows:

Attending or participating in continuing education. Information professionals engage in various forms of continuing education; these learning experiences are organized both within and outside the workplace-in institutions of higher education, in the public or private sectors, and conducted by professional/academic associations, both within and outside the country. Some important modes of continuing education are attendance at professional meetings and conferences, workshops, and participation in professional committees and task forces. Other opportunities are: (a) short intensive courses, sponsored by institutes, taken either with or without academic credit; (b) expert conferences; (c) university credit courses specifically designed for continuing education students; (d) information gleaned through library and information resources; and (e) sabbaticals, study visits, and internships.

Collaborative learning. Information professionals learn best through collaborative learning, leading to fruitful outcomes. It has been proven that institutional processes founded on teamwork and collaboration result in the highest efficiency and academic quality. With collaborative effort and spirit, each employee shares knowledge and experience with every other employee, resulting in jointly constructed knowledge and the accomplishment of ultimate goals. Work is done in highly interactive and collaborative ways, with a climate of support, combined with a commitment to learning together. Through this collaborative working process, the individual learns, the group learns, and, finally, the organization learns.

The distinguishing feature of collaborative learning partnerships is that working relationships prove to be as important as the knowledge gained. The interaction of collaborators becomes valued and potentiates the learning (Saltiel, 1998). An intense relationship, centered on mutual goals, is at the core of collaborative partnerships. Information professionals, through collaborative learning, develop necessary knowledge and skills. Hayes (1989, p. 59) explained that a collaborative learning activity is not simply an activity completed by a group. For an activity to be truly collaborative, the contribution of all individuals to the attainment of mutual goals must be valued. All members of a learning group must take responsibility for the learning of every other member of the group.

Self-directed learning. Adults have a deep psychological need to be self-directing (Knowles, 1980, p. 43). Information professionals, as adult learners, share this need. Self-directed learning is not necessarily solitary learning. Three principal, but distinct, ideas are incorporated in the concept of self-directed learning: (a) self-initiated processes that stress the ability of individuals to plan and manage their own learning; (b) personal autonomy; and (c) the organization of instruction in formal settings that allows for greater learner control (Brockett and Hiemstra, 1991; Candy, 1991). Survival and prosperity in a world of continuous personal, community, and societal change requires adult learning processes to be self-directed, maximizing individual responsibility and control.

Interaction with each other. People are important learning resources for information professionals. They learn from colleagues and workers at all levels, including resource persons from outside the workplace who are invited to participate in learning activities. Employees

have different characteristics, backgrounds, knowledge, skills, experiences, competencies, values, and attitudes. They learn from each other in both formal ways (e.g., meetings, seminars, conferences, workshops) and informal ways (e.g., discussions in staff rooms, invisible colleges, peer groups). People, especially colleagues helping one another, provide a powerful source of knowledge, recognition and respect. Friendly and supportive interpersonal relationships create a learning climate.

Information professionals should also be encouraged to join professional and academic associations. Through such memberships they can engage in professional activities and can interact with academicians or experts in the field. Membership in community organizations can also enable one to draw upon community creativity and sensitivity, providing a more rewarding learning experience and a connection between private and public life.

Experiential learning. Direct experience is essential to information professionals' learning. As adults, they derive meaning from their various kinds of accumulated experiences and from their own actions. Saltiel (1995) indicated that for the employed adult learner the need for experience-based learning is even more necessary. A classroom-based learning model is not as effective for a working adult, whose day-to-day life is far more compelling and requires wrangling with problems in real-life working situations.

Conditions of workplace learning

The conditions of workplace learning comprise the environments, circumstances, situations, and states of being that affect, support, promote, engage or facilitate the learning of workers or employees. Holliday (1994) attempted to identify conditions of teacher learning by reviewing a wide range of literature from adult learning, teachers' work, the teaching workplace and other related literature. He presented five conditions of workplace learning, and how these conditions promote the workplace learning of teachers. These five conditions are: Self, Personal meaning, Action, Collegiality, and Empowerment. Holliday (1998 Module 2) explained further that these five conditions of teacher learning promote the learning process. These conditions are interrelated synergically, in that they each enhance the ability of the others to promote the learning process. They are also symbiotically related, in that they are naturally interdependent, so that any one condition would be debilitated if separated from the others.

Retallick (1993) undertook another study to identify the following conditions that facilitate teacher workplace learning:

- A "personal-communal" ethos in the workplace;
- Dialectic and problematic approaches to reform (mutualism);
- Recognition of connections between personal and professional knowledge and the lives of teachers;
- Viewing the school as an "educative workplace" for teachers as well as for students;
- Recognizing the principles of adult learning as important when applied to teachers' learning;
- Recognizing the states of professional development in teachers' lives;
- Differentiating teachers' needs, using a range of factors, including age, gender, experience in teaching, ethnicity, etc.;
- Designing professional development (in-service) programs to provide for follow-up and continuing support;
- Ensuring that principals and administrators provide leadership and a vision for improvement;
- Fostering a culture of collaboration and a sense of professional community in the school;
- Developing reciprocal approaches to teacher appraisal.

Taking an educational setting as an example, and using Holliday's model (which is my major source of analyzing these conditions), the major conditions of learning that exist in the workplace of information professionals are presented as follows:

Learner. The learner or "self" appears to foster profound learning. The "self" involves psychological factors and a description of the internal traits and manifest behaviors exhibited by the learner. Conditions for profound learning exist when information professionals feel good about themselves and have a positive sense of self-worth as persons, workers, and learners. Learner characteristics are particular behaviors that information professionals bring to the learning process. Several personal and background factors have been found to influence their learning approaches, such as individual capability, readiness, and motivation, which produce interest, enthusiasm, appreciation, and dedication. Cavaliere and Sgroi (1992) added that intense feelings-passion, desire, and, even, affliction-drive these individuals to devise and identify strategies and tools to assist them in their learning.

Context. Context is considered in the broadest sense to mean anything external to the learners, including local setting, historical context, cultural and social world views; values, behaviors, and standards; availability of resources; information, people; and the significance of timing to the learning process (Cavaliere and Sgroi 1992). This condition exists when the context is conducive to learning and the workplace is viewed as a learning organization. The library fosters learning context, e.g., its physical setting; the size, the buildings, learning facilities, cleanliness. The way people in the workplace work, live and learn together are recognized as important and promote workplace learning. This condition exists when organizational culture facilitates learning, for example, a culture of collaboration, empowerment, critical reflection, a sense of belonging, a sense of professional community, a climate of support, a spirit of sharing, a commitment to learn together, a more questioning approach to improvement and more risk-taking.

Autonomy. These include autonomy of content: the extent to which staff control what they learn; autonomy of learning method; the extent to which staff control how they learn; generation of new knowledge: the extent to which staff generates new knowledge as distinct from simply assimilating existing knowledge; autonomy in what to learn, how to learn, and where to learn which will enhance interest, enthusiasm, appreciation and dedication to learning.

Relevance and benefits. Information professionals should be able to see the relevance and benefits of workplace learning with its applicability and its impact on job performance. They must be made to believe it will increase their effectiveness, add to their professional knowledge, and enhance their skills. Learning begins when information professionals know their goals and their current situation. If learning is integrated into work in an ongoing and systematic fashion, this will support continuous learning, increasing the demand for learning at work. It will result in improvement of the workplace at the individual, group, and institutional level.

Practice. This condition exists when information professionals have the opportunity to develop, experiment, and apply their ideas and knowledge in action to see if they work. They must work out, stage by stage what is involved in their ideas, sometimes by trial and error, thereby running the risk of making mistakes. However, these offer experiences that are valued as a rich resource for learning and reflection in action. They help other plan how to meet challenges at work. The workplace that allows workers to do this, promotes learning and increases workers' workplace learning. As Revans (1983) said, there is no learning without action and no action without learning.

Reforming workplace learning

Reforming workplace learning can improve all these conditions of workplace learning and enhance growth and development in the learners. These methods are introduced as follows:

A facilitative process. The facilitator is challenged with assisting in overcoming any obstacles to participation. These obstacles can be classified under three headings: situational barriers, institutional barriers, and dispositional barriers. Situational barriers arise simply because of the individual's life situation. Institutional barriers present practical obstacles to participation, and dispositional barriers relate to attitude and personal beliefs about learning (Cross, 1981).

Mentoring coaching. Clutterbuck (1991) said that mentoring is a powerful human resource development tool. The mentor relationship is often the most important vehicle for stimulating and assisting development. Mentoring assists staff in overcoming difficulties, adapting to new circumstances and significantly helping them reach their major life goal. Mentoring facilitates self-learning and team management. Mentoring systems enhance the library's ability to remain flexible and adaptable to changes and to implement new practices that ensure continued success. Mentoring/coaching for information professionals should use a collaborative approach. As indicated by McCann and Radford (1993) mentoring takes place in organizations that are professional learning communities. In these communities, it is systematically acknowledged that everyone has something to contribute and something to learn. In this case, information professionals are mentored when developing processes that enable them to reflect upon their work, to share, and to collaborate.

A learning organization. Discussions on the concept of learning organizations have grown exponentially in recent literature. Daniels (1994) contended that there is no shared meaning of what constitutes a learning organization. Calvert, Mobley, and marshal (1994) argued that there are no "true" learning organizations, but only organizations that exhibit certain attributes we might expect a learning organization to demonstrate. Griego, Geroy and Wright (2000) reviewed definitions of learning organizations and found that all the definitions suggest an important relationship between practices in the workplace and learning organizations.

Learning has become an important part of the organization image and learning takes place through individuals, teams, and organizations. Library and other information institutions should be designed to facilitate learning and development opportunities to all information professionals and other employees; to continuously transform themselves to better, collect, manage, and use information for corporate success. The library as a learning organization should have these six action imperatives: 1) to create continuous learning opportunities, 2) to promote inquiry and dialogue; 3) to encourage collaboration and team-learning; 4) to establish systems to capture and share learning; 5) to empower people toward a collective vision; and 6) to connect the organization to its environment (Watkins and Marsick 1996). According to Argyris and Schon (1978), information professionals should act as learning agents for the organization, responding to changes in the internal and external environments and detecting and correcting errors.

Conclusions

In the information and knowledge society, information professionals should remain on the cutting edge. In order to cope with change, to meet new challenges, and to develop as professionals, their learning should be constant. Information professionals must adapt to new environments that are conducive to learning. They must continue learning in the workplace, transforming the library into a learning organization. The library should as a place of education provides a professional community of learners where everyone is both teacher and learner. Learning, participation, cooperation, and collaboration are valued above prescription, production, and competition. Self-reflection, systematic problem-solving, investigation, openmindedness, and shared institutional values should be cultivated. Senge (1990) supports this idea saying that leaders in learning organizations are responsible for building organizations where people are continually expanding their capabilities to shape their future. Leaders are responsible for learning. Workplace learning is important . Cohen (1994) considers this a long-term investment in the future of the organization. The more efficient the worker, the greater the organization's profit. (Rowden, 1996).

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